



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

tests might have been made I do not think has been adequately developed at the trial, but assuming that the only perfectly reliable test would have been to examine all the pipes at a prodigious expense, the city cannot escape liability by voluntarily avoiding such expense and then practically making a more economical test at plaintiffs' cost. The method adopted amounted to a test in practice and the two breaks first referred to were a sufficient indication of what might and actually did thereafter follow. The second test in practice resulted in the break which caused the damage here complained of. I have no hesitation in holding that while the method adopted may have been on the whole a wise one from the standpoint of economy, the city cannot escape liability for its negligence by showing that the proper way of performing this work would have been more expensive.

W. W. BRUSH.

DAYTON'S EXPERIENCE IN MAKING COLLECTIONS

The collection of bills for water furnished by municipally owned plants is said to be lax at times. This was certainly the case in Dayton until two years ago. Consumers who failed to pay their bills by the fifteenth of the month were supposed to have a 10 per cent additional charge made against them. If a delinquent consumer offered this penalty it was received cheerfully and there was a place in the ledger for recording its receipt. If the consumer failed to tender the penalty, the face of the original bill was accepted for full payment. The rule was such a dead letter that a number of real estate operators made a practice of paying their water bills annually and not quarterly, and, it is hardly necessary to say, they did not pay in advance. One man operating over a hundred properties came into the office one day with a sheaf of bills from which he selected for payment only those carrying an overdue notice at the bottom. The water supply to the worst offenders was sometimes shut off, but that was about all that was done to enforce payments when long overdue.

The system was unfair to the consumer and recognized as a bad business condition which the management must remedy. Tenants left houses without paying their water bills and it was not always possible to collect them from the landlords. The losses from this cause and through the interest on overdue accounts was considered to be greater than the salary for a good assistant. It was accordingly decided to make a change and to attempt to collect bills promptly, even though nobody connected with the department had much confidence in the possibility of accomplishing a decided improvement. When the bills were sent out a notice accompanied them stating that the city had been wasting money through previous failure to insist

upon prompt payment of accounts and that this being the money of the citizens their coöperation in saving it was desired. On the sixteenth of the month the penalty was insisted upon, at first, and receipts were not given for payments made without it upon that or any later date. If the bill with penalty added was not paid by the twenty-fifth of the month the water was shut off. At first this was done without giving notice, in the belief that a notice would merely result in useless discussion, but experience showed that it was better to send a dunning statement on the sixteenth and to deliver by automobile on the twenty-fifth a notice that water would be shut off at the expiration of forty-eight hours if the account was not settled. A change in the financial arrangement was also made by which a discount of 5 per cent was allowed on bills paid on or before the fifteenth of the month and the penalty was reduced to 5 per cent and did not become payable until after the twenty-fifth. The minimum penalty after the water was shut off was fixed at one dollar. If the account was not settled within three days after the water was shut off the meter was removed and the account turned over to the legal department for collection.

Record of procedure in collecting water bills at Dayton, Ohio

MONTH	1917				1918				1919			
	16th, dun	25th, auto notification	27th, shut off	Meter out	16th, dun	25th, auto notification	27th, shut off	Meter out	16th, dun	25th, auto notification	27th, shut off	Meter out
January.....	634	165	29	10	483	278	77	39	670	160	27	19
February.....	434	210	35	13	449	200	53	28	427	142	35	12
March.....	839	223	43	10	398	278	54	13	732	332	32	10
April.....	676	219	56	16	624	185	28		710	245	48	14
May.....	529	137	31	5	534	175	39	15	558	162	31	14
June.....	666	291	39	10	736	264	57	17	976	243	32	5
July.....	664	206	43	13	741	215	52	20	849	234	50	14
August.....	624	154	36	13	456	206	61	30				
September.....	438	248	55	21	841	335	28					
October.....	620	203	72	23	674	291	43					
November.....	632	117	26	6	497	199	28					
December.....	603	213	40	26	868	225	46	16				
Total.....	7359	2386	505	166	7301	2761	566	*252	*8437	*2627	*455	*151

* Estimated.

The results of the experience in enforcing the payment of water bills in Dayton are shown in the accompanying table. The new system has eliminated all bad accounts. The last balance sheet showed three outstanding bills held for legal action and two for settlement by receivers. The system now meets with general favor. The discount is appreciated and the consumers are pleased because they know everybody gets exactly the same treatment. The results of the adoption of the system show that good business methods are popular and that a municipal department can make collections promptly if it chooses to do so.

H. C. WIGHT.

THE USE OF STATISTICAL DATA

Attention may profitably be directed to the paper by Mr. Wolman, in this issue of the JOURNAL, on the possibility of using index numbers to express the quality of water supplies. It is one of the few instances of the application of the science of statistics to the problems of water supply, and as that science can render great help to some of the technical branches of the business of supplying water it is regrettable that more attention has not been paid to it by water specialists. The misuse of technical statistical data is one of the most common errors seen today in technical papers. It is frequently the case that the results of investigations are tabulated in such a way that they mislead rather than instruct, and when the tabulated results are further altered by plotting their averages in diagrams the curves may convey impressions which are at wide variance with the actual facts.

The dangers of misuse can be illustrated by an example where they are generally appreciated. We are all familiar with diagrams which give the total rainfall for each month during a series of years. The rainfall for each month is indicated by a horizontal line and the diagram has the appearance of a succession of steps. There is no danger of improperly using this diagram, in all probability. But if any reader wishes to see how different the same data will appear in another grouping it is only necessary for the calendar months to be replaced by months beginning on the fifteenth day of each calendar month, or by weeks. Shortening the time interval, or the unit of measurement on the axis of abscissas, often introduces great irregularities into such diagrams. Such irregularities are not a matter of moment in water supply but they are vital in the disposal of storm water in our cities.